

WHAT IS CLAIMED IS:

- 1 1. A method for improving a network connection in a
2 wireless network, said method comprising the steps of:
3 determining at least one quality measure for a channel
4 of said network connection;
5 estimating a quality condition for said channel based
6 on said at least one quality measure; and
7 selecting a packet type to be transmitted over said
8 channel based on said quality condition.
- 1 2. The method according to claim 1, wherein said at
2 least one quality measure is determined from a receiver side
3 in said network.
- 1 3. The method according to claim 1, wherein said at
2 least one quality measure is determined from a transmitter
3 side in said network.
- 1 4. The method according to claim 3, wherein said step
2 of estimating a quality condition comprises ignoring receiver
3 side quality measures and using only quality measures
4 determined from said transmitter side.

1 5. The method according to claim 1, wherein which one
2 of said at least one quality measure is determined varies
3 depending on a previously selected packet type.

1 6. The method according to claim 1, wherein an uncoded
2 packet type is selected if said channel is primarily
3 interference limited.

1 7. The method according to claim 1, wherein a coded
2 packet type is selected if said channel is primarily noise
3 limited.

1 8. The method according to claim 1, wherein a
2 relatively short packet type is selected if said channel has
3 a high bit error rate.

1 9. The method according to claim 1, wherein a
2 relatively long, uncoded packet type is selected if said
3 channel is neither interference limited nor noise limited.

1 10. The method according to claim 1, wherein said
2 selected packet type is the same as a previously selected
3 packet type.

1 11. The method according to claim 1, wherein said
2 selected packet type is different from a previously selected
3 packet type.

1 12. The method according to claim 1, wherein said
2 network is an ad hoc network.

1 13. The method according to claim 1, wherein said
2 network is a Bluetooth (TM) wireless network.

1 14. The method according to claim 1, wherein said step
2 of estimating said quality condition includes comparing said
3 at least one quality measure to a predefined value.

1 15. The method according to claim 1, wherein said step
2 of selecting a packet type includes waiting for a predefined
3 time period before selecting said packet type.

1 16. The method according to claim 1, wherein at least
2 an error detection quality measure is used to estimate said
3 channel condition.

1 17. The method according to claim 1, wherein at least
2 a Forward Error Correction quality measure and an error
3 detection quality measure are used to estimate said channel
4 condition.

1 18. The method according to claim 1, wherein at least
2 a received signal strength quality measure and an error
3 detection quality measure are used to estimate said channel
4 condition.

1 19. The method according to claim 1, wherein at least
2 a packets positively acknowledged quality measure and a power
3 amplifier voltage are used to estimate said channel
4 condition.

1 20. The method according to claim 19, wherein said
2 packets positively acknowledged quality measure and said
3 power amplifier voltage are determined based partly on at

4 least one of an error detection quality measure, a Forward
5 Error Correction quality measure, and a received signal
6 strength quality measure.

1 21. A communications device for communicating over a
2 network connection in a wireless network, said device
3 comprising:

4 a channel quality processor for determining at least one
5 quality measure of a channel of said network connection;

6 a channel condition processor coupled to said channel
7 quality processor for estimating a quality condition of said
8 channel based on said at least one quality measure; and

9 a packet type selector coupled to the channel condition
10 processor for selecting a packet type to be transmitted over
11 said channel based on said quality condition of said channel.

1 22. The communications device according to claim 21,
2 further comprising a receiver unit, wherein said at least one
3 quality measure is determined based on information obtained
4 from said receiver unit.

1 23. The communications device according to claim 21,
2 further comprising a transmitter unit, wherein said at least
3 one quality measure is determined based on information
4 obtained from said transmitter unit.

1 24. The communications device according to claim 23,
2 wherein said channel condition processor is configured to
3 ignore receiver side quality measures and to use only quality
4 measures determined based on information obtained from said
5 transmitter unit.

1 25. The communications device according to claim 21,
2 wherein which one of said at least one quality measure is
3 determined varies depending on a previously selected packet
4 type.

1 26. The communications device according to claim 21,
2 wherein said packet type selector selects an uncoded packet
3 type if said channel condition processor determines that said
4 channel is primarily interference limited.

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1 27. The communications device according to claim 21,
2 wherein said packet type selector selects a coded packet type
3 if said channel condition processor determines that said
4 channel is primarily noise limited.

1 28. The communications device according to claim 21,
2 wherein said packet type selector selects a relatively short
3 packet type if said channel condition processor determines
4 that said channel has a high bit error rate.

1 29. The communications device according to claim 21,
2 wherein said packet type selector selects a relatively long,
3 uncoded packet type if said channel condition processor
4 determines that said channel is neither interference limited
5 nor noise limited.

1 30. The communications device according to claim 21,
2 wherein said selected packet type is the same as a previously
3 selected packet type.

1 31. The communications device according to claim 21,
2 wherein said selected packet type is different from a
3 previously selected packet type.

1 32. The communications device according to claim 21,
2 wherein said network is an ad hoc network.

1 33. The communications device according to claim 21,
2 wherein said network is a Bluetooth (TM) wireless network.

1 34. The communications device according to claim 21,
2 wherein said channel condition processor is configured to
3 compare said at least one quality measure to a predefined
4 value.

1 35. The communications device according to claim 21,
2 further comprising a timer, wherein said packet type selector
3 is adapted to wait for said timer to expire before selecting
4 said packet type.

1 36. The communications device according to claim 21,
2 wherein at least an error detection quality measure is used
3 to estimate said channel condition.

1 37. The communications device according to claim 21,
2 wherein at least a Forward Error Correction quality measure
3 and an error detection quality measure are used to estimate
4 said channel condition.

1 38. The communications device according to claim 21,
2 wherein at least a received signal strength quality measure
3 and an error detection quality measure are used to estimate
4 said channel condition.

1 39. The communications device according to claim 21,
2 wherein at least a packets positively acknowledged quality
3 measure and a power amplifier voltage are used to estimate
4 said channel condition.

1 40. The communications device according to claim 39,
2 wherein said packets positively acknowledged quality measure
3 and said power amplifier voltage are determined based partly

